Adverse Selection and Broker Execution

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Question

What can broker execution tell us about microstructure?

Outcomes

- Effective Spread
- Likelihood of being routed

Assumptions

- Information events occur less frequently than 30 minutes
- Competition (Traders may change market centers)

Data Sample

SEC Rule 605 Reports

- Monthly Frequency
- Segmented by Month, Ticker, Market Center, and Order Type
- Compiled by the KOR Group

Control Variables

- CRSP-Compustat, NYSE TAQ, Option Metrics

Merged Sample

- May 2007 through December 2013
- 8,857 Stocks on 75 Market Centers
- 9,735,497 Observations

Econometrics

Control Variables

- Market Capitalization, Liquidity
- Return, Turnover, Order Type
- Historic Vol, Implied Vol, Vol Skew

Test Variables

- Order Market Share
- Routed Orders by Market Center
- Routed Orders by Order Type
- Cancellation by Market Center
- Cancellation by Order Type

Takeaways About Spreads

Market Centers

- Market centers have vastly different execution quality
- Market share matters
- Most have a significant reduction in effective spreads
- Between 6% and 17% have a statistically significant increase

Market Center Behavior

- Smaller spreads at market centers with more canceled orders
- Order Routing
- Retail order flow

Order Characteristics

- Longer time to execute is associated with larger spreads
- Queue position (aggressive orders pay larger spreads)

Empirical Support

- Adjusted R^2 0.4187

Takeaways About Routing

Market Centers

- Trading venue not just security
- Market share

Order Characteristics

- Queue position (aggressive orders get routed)
- Higher turnover

Stock Characteristics

- Higher VPIN is associated with more routed orders
- No relationship with liquidity

Empirical Support

- Adjusted R^2 0.7392

Got Data?

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